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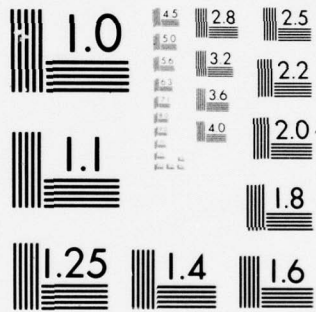
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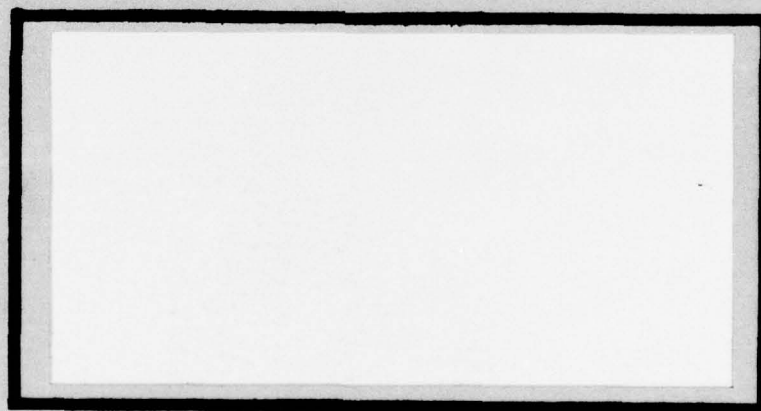
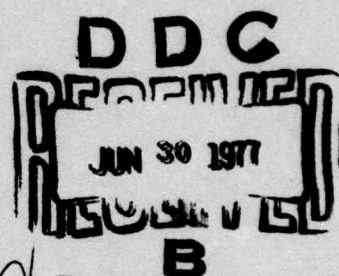


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GOAL SETTING AND JOB ENRICHMENT: AN
INTEGRATIVE APPROACH TO JOB DESIGN

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFIT-LS-2-77	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) GOAL SETTING AND JOB ENRICHMENT: AN INTEGRATIVE APPROACH TO JOB DESIGN.		5. TYPE OF REPORT & PERIOD COVERED AU-AFIT-LS Technical Report
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Denis D. Umstot, Lt Col, USAF Cecil H. Bell, Jr. Terence R. Mitchell		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Graduate Education Division School of Systems and Logistics Air Force Institute of Technology, WPAFB OH		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 12 50 P.
11. CONTROLLING OFFICE NAME AND ADDRESS Department of Research and Administrative Management AFIT/LSGR, WPAFB OH 45433		12. REPORT DATE Apr 1977
		13. NUMBER OF PAGES 37
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
15a. DECLASSIFICATION/DOWNGRADING SCHEDULE		
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; IAW AFR 190-17 JERRAL F. GUESS, Captain, USAF Director of Information 25 May 1977		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Job Enrichment; Goal Setting; Job Satisfaction; Work Redesign; Task; Goals; Work Motivation		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) (over)		

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Productivity and Job Satisfaction are two dominant concerns of managers. One approach to designing jobs so that both of these outcomes can result is to combine job enrichment and goal setting. However, little is known concerning the interaction between these two major techniques. This paper reviews the empirical literature relating goal setting and job enrichment. The interaction of job characteristics, individual differences, and organizational characteristics are reviewed and a set of hypothesized relationships are proposed.

The results of an experimental simulation of job enrichment and goal setting are discussed in terms of their hypothesized impact on job characteristics. It was found that goal setting resulted in higher productivity with no adverse impact on satisfaction while job enrichment had no effect on productivity and a major impact on satisfaction. Employees assigned to jobs where goal setting already existed reported higher scores on task identify and autonomy. However, when goals were added to an existing job, no changes occurred. Thus, the impact of goal setting on job characteristics was conflicting. The study concludes that job enrichment and goal setting may be combined to simultaneously improve satisfaction and productivity.

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GOAL SETTING AND JOB ENRICHMENT:
AN INTEGRATIVE APPROACH TO JOB DESIGN

A School of Systems and Logistics Technical Report
Air University
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Goal Setting and Job Enrichment:
An Integrative Approach to Job Design¹

Even though interest in the quality of working life and job satisfaction is increasing (Campbell, Converse, & Rodgers, 1976; Mills, 1975; Work in America, 1973), task performance and productivity continue to be the dominant concern of most managers (Scott, 1974). Productivity on the one hand and job satisfaction on the other are the major two dependent variables in much of the organizational research literature. Often these two outcomes are pitted against each other--which one do you want to enhance, productivity or job satisfaction? We propose that the two outcomes are not necessarily mutually exclusive or inherently in conflict with one another. We believe it is possible to design jobs that simultaneously enhance both productivity and satisfaction; and we suggest a strategy for doing so.

This paper is about job design and two job design strategies--job enrichment and goal setting. "Job design refers to the deliberate, purposeful planning of the job, including any or all of its structural or social aspects" (Umstot, Bell, & Mitchell, 1976, p. 379). The complex topic of job design can be approached from a number of different perspectives, but two major approaches are those of job engineering and job enrichment. The job engineering approach, based on Frederick W. Taylor's (1911) scientific management, seeks to make jobs more efficient by improving work methods, tools, and task structure through such activities as time-and-motion studies, routinization, and

establishing production standards. We are interested in only one aspect of the job engineering or scientific management approach--establishing production standards, or goal setting. We define goal setting as "the process of developing, negotiating, and formalizing targets or objectives that an employee is responsible for accomplishing" (Umstot, et al, 1976, p. 381). The job enrichment approach seeks to make jobs inherently more interesting and satisfying through adding such job characteristics as skill variety, task identity, task significance, autonomy, and feedback (Hackman & Oldham, 1976). The job enrichment strategy represents, in many respects, a reaction to correct some of the dysfunctional consequences associated with the job engineering approach. A brief historical sketch of job design will illustrate this reaction.

Increasing productivity through attention to the design of jobs has a long history; and it is primarily a history of developing and implementing scientific management, Taylor's pervasive contribution to managerial practice. Scientific management--with its heavy emphasis on work simplification, specialization, standardization, and fragmented tasks carried out under close supervision and control--was the guiding force in job design for over fifty years. Developed principally to increase productivity, scientific management principles continue to exert major influence today. In 1956, Davis and Canter, after conducting a survey to discover the job design principles used in industry, concluded that:

Of overwhelming influence in the design of industrial jobs is the criterion of minimizing immediate costs of producing, i.e., the immediate costs of performing the required operations. The usual indication of satisfying the criterion is minimum unit operation time (1956, p. 276).

But with increased simplification and fragmentation of tasks came decreased job satisfaction--work lost its meaning and its value as a source of personal satisfaction. The Work in America Task Force credits the "Anachronism of Taylorism" as being a major cause of job dissatisfaction, creating discontent, "blue collar blues," and even physiological and mental health problems (1973, p. 17). Thus, the alienation created by pushing scientific management to the extreme often resulted in decreased organizational performance because of high turnover and absenteeism, low quality, and even sabotage.

In the last ten to fifteen years, there has been a swing away from scientific management toward job enrichment, a job design technique that attempts to increase job satisfaction and thereby improve performance. Job enrichment strategy calls for providing interesting, challenging, and meaningful jobs with which employees can identify. It is perhaps the principal new job design strategy of the "60's and 70's." An indication of the growing interest in the quality of worklife and job enrichment is the frequent inclusion of these issues in labor-management discussions and contracts.

Although scientific management has been made the scapegoat for most of the job related problems existing in organizations today, this is perhaps an exaggeration (see Fry, 1976 and Kadar, 1970 for commentaries favorable to scientific management). Certainly, one of Taylor's key concepts, setting specific goals or standards to enhance task performance, appears to be quite complementary to modern behavioral science. Recent research in both the laboratory (see Locke, 1968 and Locke, 1975 for reviews) and the field (see Latham & Yukl, 1975 for a review) has demonstrated that goal setting is an effective method for increasing productivity. Taylor's own experiments with goal setting showed that they served to enhance performance (Taylor, 1911). However, the research on goal setting and incentive techniques in the Hawthorne studies (Roethlisberger & Dickson, 1939) showed that goals set by management were often ineffective due to social pressures and norms.

We believe what is needed is an integration of goal setting techniques and job enrichment techniques. Goals could serve to facilitate higher productivity, while job enrichment could promote job satisfaction and improve the quality of working life for employees. In this chapter we attempt such an integration. Some pertinent questions to be explored include: Are goal setting and job enrichment strategies compatible methods for improving productivity and job satisfaction? Can they be combined? With what effects? How do goal setting and job enrichment strategies impact on individual and organizational characteristics? To answer these questions, we will first review

the conceptual and empirical foundations for goal setting and job enrichment separately in context of their relationship to the broader concept of job design. Then we will turn to an examination of the interactions between job enrichment and goal setting by first discussing the ways that goal setting and job characteristics interact with individual and organizational variables, and second, reporting the results of an experimental simulation of these variables. Finally, some tentative conclusions regarding the interrelationships are examined and their implications for job design in organizations are offered.

The Conceptual and Empirical Foundations for Job Enrichment and Goal Setting

Job Enrichment Foundations

The theoretical perspective. The theoretical development of job enrichment is reviewed in considerable detail in other sources (see Herzberg, 1966; Davis & Taylor, 1972; Porter, Lawler & Hackman, 1975; Steers & Mowday, in press). The coverage here will be sufficient to provide a frame of reference for the reader, not to accomplish an indepth review. One major theoretical basis for many job enrichment efforts in the 1960's and 1970's has been the motivation-hygiene theory (Herzberg, Mausner, & Snyderman, 1959). Herzberg (1968) identified six motivation factors that lead to satisfaction: achievement, recognition, responsibility, work itself, advancement, and growth. He suggests that by designing jobs that include the motivator factors, the work force will be satisfied and hard working.

Beginning from a somewhat different perspective, Turner and Lawrence (1965) empirically studied a variety of tasks and developed and tested several task attributes including variety, autonomy, interaction, task identity, mental states, and other environmental attributes. Further refinement of the work of Turner and Lawrence was done by Hackman and Lawler (1971), who synthesized four core job dimensions: skill variety, autonomy, task identity, and feedback. The core job dimensions were expanded to include task significance and tested within a theoretical framework by Hackman and Oldham (1976). Their data suggested that people who work in jobs which incorporate these core job dimensions will experience job enrichment and, as a result, be more satisfied and produce higher quality output. Because of the fairly rigorous empirical development of this theory, these five job characteristics (skill variety, task identity, task significance, autonomy, and feedback from the job) are used throughout this study to represent job enrichment.

Empirical support for job enrichment. A growing body of research literature shows job enrichment to be consistently related to improved job satisfaction. A review of the literature found that of 13 controlled job enrichment experiments, seven reported increases in satisfaction (three studies reported statistically significant increases) while only one reported a decrease in satisfaction (Umstot, 1975). After a review of both correlational and experimental task design literature, Pierce and Dunham (1976) concluded that "[complex] task designs are more frequently associated with positive affective motivational responses than are narrowly defined tasks" (p 87).

The relationship between job enrichment and performance is less strong. Of 13 controlled experiments seven found increased productivity (only one reported a statistically significant increase), two reported decreased productivity and two found no change (Umstot, 1975). Pierce and Dunham

also concluded that "It appears from the evidence amassed from these studies that the affective and motivational responses are more strongly related to task design than are the behavioral responses" (1976, p 87). However, the failure to find strong links between job design and productivity does not mean that the bottom line is unaffected. Job enrichment often results in higher quality, less wastage, less turnover and absenteeism, fewer grievances, and a generally more committed workforce. These indirect influences on productivity are becoming increasingly more important (Mills, 1975).

In summary, job enrichment appears to be more related to job satisfaction and goal setting appears to be more related to productivity. It seems reasonable to examine the possibilities for simultaneous application of these two techniques. Few organizational practitioners have attempted to combine job enrichment and goal setting. One notable exception is the work of Scott Myers at Texas Instruments (1970). Myers considers goals to be an integral part of the job enrichment process. Unfortunately, little empirical evidence has been reported by Myers to show the effectiveness of the combination.

In the next section we will turn to a review of the conceptual and empirical evidence relating to goal setting.

Goal Setting Foundations

Most people intuitively believe that goals are related to performance. Even the most casual observation will reveal that people with vague or indefinite goals often seem to work slowly, perform poorly, lack interest, and accomplish little. On the other hand, people with clearly defined goals appear to be both more energetic and more productive; they "get things done" within a specified time period and move on to other activities (and goals). Goals may be implicit or explicit, vague or clearly defined, self-imposed, or externally-imposed; but whatever their form, they serve to structure time and activities

for people. People are purposive beings. Goal clarity and goal difficulty may vary widely among people, but goal setting is a ubiquitous phenomenon.

Goal setting theory. Locke (1968) has developed a theory of work performance stating that clear and difficult goals, if accepted, will result in increased performance. The major theoretical assertions of Locke's approach are as follows. First, specific goals result in greater output than a general goal like "do your best." Second, a difficult goal results in greater output than an easy goal. And finally, goals serve to motivate performance only if they are accepted. The empirical results seem to support these statements: specific, difficult goals, if accepted, do result in high performance levels (Latham & Yukl, 1975, Steers & Porter, 1974). However, Locke has recently stated that his goal setting tenets should be "more appropriately viewed as a motivational technique rather than a formal theory of motivation despite [his] previous [Locke, 1968] suggestions to the contrary" (1975, p 465). Thus Locke now seems to view goal setting as a technique for increasing performance rather than a major theory of work motivation.

The functions of goals. Steers and Porter (1975) highlighted five functions of goals: (1) to focus attention and direction, (2) to provide standards, (3) to provide a source of legitimacy for activities, (4) to affect the communications, structure, and authority relationships of the organization, and (5) to provide insights into work motivation relationships. These functions contribute directly to job design by

providing a framework for actions and activities that are conducted on the job. In other words, goals provide the boundaries and structure for work activities and serve to channel and direct effort.

Management by objectives. One practical application of goal setting is to use it within the framework of a management-by-objectives (MBO) program. MBO, as originated by Drucker (1954) and further popularized by McGregor (1960), is more of a philosophy of management than a job design technique. MBO combines goal-setting, control, and appraisal systems to improve organizational objectives associated with an individual or a small group. MBO programs are top-down programs that often focus primarily on managerial levels. There is a great deal of anecdotal evidence that MBO works; however, few rigorous evaluations have been reported (see Steers & Porter, 1974, for a review). Ivancevich (1974) reported the only controlled field experiment in MBO that we are aware of. His research provided some support for the hypothesis that MBO leads to higher productivity, although the results were not consistently strong across all experimental groups. Problems with MBO programs are often cited in the literature (Owens, 1974; Raia, 1974). However, since MBO includes many variables other than goal setting, it is difficult to assess the meaning of the empirical findings on the topic.

The Interaction of Goal Setting and Job Enrichment

How Goals Affect Job Characteristics

Few studies exist relating goal setting to specific job characteristics. In the following sections, the existing literature will be reviewed and some tentative hypotheses will be developed to

explain the interactions between goal setting and job characteristics.

Skill variety. Although goals may add some marginal amount of skill variety to the job, little change in this dimension would be expected unless the job was very bleak indeed. In particularly boring and repetitive jobs, employees might be expected to react in several different ways. First, they might find that goal setting makes the job more interesting by providing something to activate their interest. Second, they might be alienated by the goal setting program because they feel they are being manipulated. Third, group pressures might develop to prevent goal acceptance. Thus, goal setting alone would seem to have some possibility of improving a dull, repetitive job provided that the employees accept the goals.

Task identity. Goal setting may involve integration of task goals with departmental or organizational goals, thus creating a sense of wholeness to the job that may have been previously lacking. Also, by focusing on objectives and accomplishments rather than activities there may be more sense of closure on the whole job or task.

Task significance. Goals may create a sense of meaningfulness by providing the employee with a perspective for where his or her contribution fits in terms of the organization's end product or service. By seeing the "big picture" employees may better understand the significance of their jobs and may thus have an enhanced sense of worthwhile contribution to the organization. If meaningfulness improves, job characteristics theory (Hackman & Oldham, 1976) predicts that increased work satisfaction and internal work motivation will result.

Autonomy. By establishing the objectives that need to be accomplished, goal setting tends to focus attention on ends rather than means.

Thus, the tendency of supervisors to become involved in overcontrol and detailed supervision of tasks can be reduced and possibly eliminated. Goal setting is a way of establishing responsibility for task accomplishment. Supervisors are often more comfortable when responsibility can be pinpointed and are thus more receptive to allowing greater freedom in determining means for task accomplishment.

Another important element to be considered is how the goals are set. Goals may be perceived as restraining freedom if they are unilaterally imposed. On the other hand, goals may serve to facilitate autonomy if they are jointly set and if the employee is allowed to select the means to accomplish the goal. The concept of participation is central to the autonomy-goals relationship. If participation is used and the employees actually feel commitment to the goals, the sense of autonomy and responsibility might be much higher than in a job without goals where the employee had to grope and fumble to get the job done.

There is some evidence that participation enhances goal setting. However, Steers and Porter (1974) point out that the opposite position can also be supported--in fact, the literature is contradictory. Steers (1975a) found that need for achievement may moderate the effects of participation. High need-achievers performed well with or without participation--apparently the goal itself was enough stimulus. The low need-achieving people, on the other hand, performed best only when participation was used. Thus, need for achievement or individual differences may moderate this relationship. A recent correlational

study in a public utility by Schuler & Kim (1976) found that in general, employees were more satisfied with their work when participation and goal setting were present than when only participation or goal setting alone was present. They concluded that employee participation significantly influences higher performance and job satisfaction. Although it is not clear what the relationship is between goal setting and autonomy, it is inevitable that there will be some interaction. If full participation is used, goal setting may increase the sense of autonomy. The opposite effect may occur if goals are unilaterally imposed.

Feedback from the job. By providing standards of performance, goals almost automatically enhance performance feedback. Usually there is immediate and constant intrinsic feedback if the goal cycle is reasonably short. Appraisal systems also can, at least in theory, be geared to the goal setting process so that appraisals reflect actual job performance rather than subjective perceptual measures. One indication of the influence of feedback on jobs is that both major approaches to job enrichment (Herzberg, 1974, and Hackman & Oldham, 1976) consider feedback to be an integral part of the job enrichment process.

A review of the literature concerning knowledge of results or feedback shows that goal setting and feedback are perhaps inextricably woven together so that it is very difficult to extract the effects of one from the other. Locke, Cartledge, and Koeppel (1968) argue that the effects of knowledge of results on performance are really a goal setting phenomena. They assert that knowledge of results will be

motivating to the extent that "(a) specific goal setting is facilitated, and (b) the goals set are hard or difficult goals" (p 483). An additional conclusion is that "when the two effects are separated [goal setting and knowledge of results], there is no effect of [knowledge of results] over and above that which can be attributed to differential goal setting" (p 482). Kim and Hamner (1976), in a field experiment that tested the effects of intrinsic and extrinsic feedback in a goal setting environment, concluded that

the results show that it is possible for goal setting alone to enhance performance, without a formal feedback program, but when self generated knowledge of results plus supervisory generated knowledge of results and praise was added to a formal goal setting program, performance was generally enhanced even more (p 56).

Feedback apparently provides reinforcement for significant progress toward meeting a goal or for goal attainment. Without the reinforcement of feedback it seems unlikely that people would pursue goals as a desirable outcome.

Baird (1976) conducted a laboratory experiment with 103 undergraduate volunteers using a stimulating task (in basket) and a non-stimulating task (math problems) in feedback and no feedback conditions. People assigned to groups with the stimulating task were significantly more satisfied than those with the non-stimulating task. However, there was no difference attributable to the feedback or no feedback conditions. Baird concluded that individuals working in

stimulating jobs give themselves feedback and that "the advantage of goal setting [in the feedback process] is that the person's internal evaluation has a higher probability of being in line with the external feedback" (p 73).

One barrier to unravelling the relationships between goals and feedback is a general lack of understanding of the feedback construct. Greller and Harold (1975) have attempted to clarify the concept by identifying and studying several different sources of feedback: the supervisor, co-workers, the task itself, one's own feelings, the formal organization, and clients and customers. Goals may be formally or informally associated with any of these sources of feedback.

In summary, it appears that feedback (either self administered or externally administered) is an essential element of the goal setting process. Without feedback there is no reinforcement to sustain effort towards goal accomplishment. In addition, goal setting may serve to clarify and enhance feedback so that it is of a higher quality. Thus, goal setting and feedback seem to be naturally complementary.

Other Ways That Goals Affect Jobs

Goals enhance role clarity. Goals can serve to clarify the person's role in the organization and to enhance the person's understanding of the relationships between his or her role and the roles of others. By understanding the organization's objectives and clarifying the goals for a job, a significant source of role ambiguity is eliminated and a heightened clarity of expectations should be experienced.

Goals provide job challenge. Challenge appears to be related to goal difficulty, in that the more difficult to goal, the more challenging the job. Locke (1968) summarized a number of studies showing that hard goals result in higher performance. Oldham (1975) found that challenge was related to quality of output but not quantity of output. Hall and Lawler (1970) found that job challenge, with quality pressure as an intervening variable, was related positively to both job involvement and organizational performance. Job challenge also seems to be related to attitudes toward the job. In a study of 6950 U.S. Government Civil Service employees, 42.6 percent of the variance in job satisfaction was explained by job challenge (Note 1). Thus, setting hard goals may result in enhanced perceptions of job challenge and also in increased performance.

Goal setting facilitates individual-organization goal congruence. Argyris (1957, 1973) has pointed out that when there is an incongruence between the needs of the individual and the requirements of the organization, the individual will experience frustration, psychological failure, a short time perspective, and conflict. Goal setting, especially if it is conducted in a participatory manner, could serve to provide the individual with a sense of self control and longer time perspective. Goal setting might increase the number of mature healthy individuals in organizations.

In summary, goals affect job characteristics in many ways, both objectively and subjectively. Goals serve to enhance task significance and add meaning to the job. They have major, and perhaps opposing

impacts on autonomy since they may facilitate focusing on ends rather than means. Goal setting and feedback have an interlocking relationship that makes one important to the other. Goals also serve to enhance job challenge, and facilitate individual-organizational goal congruence.

To fully understand the nature of the goals-enrichment process, we need also to examine the impact of individual differences and organizational characteristics on the interactions. The following sections address these issues.

Impact of Individual Differences

Considerable evidence exists that individual differences moderate the effects of both job enrichment and goal setting. Pierce and Dunham (1976), who reviewed many of the potential individual difference moderators of the enrichment process, concluded that workers with strong growth need strength respond more favorably. Other variables, such as social need strength or geographical location, are also potential but unproven moderators. Less evidence exists concerning the role of individual differences as moderators of the goal setting process.

Need for achievement moderates performance. Steers (1975b) in a study of 133 women in a west coast utility found that high need for achievement (n Ach) individuals performed better when assigned clear specific goals in conjunction with feedback. There were no significant results for goal difficulty; although high n Ach women tended to

prefer more difficult goals. He also found that high n Ach people pursued the goals no matter how much freedom they were given; thus, participation appears to be beneficial only with low n Ach employees.

Need for affiliation and need for autonomy moderate attitudes. In a separate analysis of the same research project, Steers (1976a) reviewed the effects of goal setting efforts on job satisfaction and involvement. The overall results showed that goal specificity, goal difficulty, and participation were all significantly and positively correlated with both satisfaction and involvement (correlations ranged from .21 to .33). Feedback was related only to satisfaction ($r=.26$). When the sample was split on the median to test for individual difference moderators, Steers found that significantly higher correlations between goal specificity and job involvement were obtained for low need for affiliation (n Aff) individuals than for high n Aff individuals. This would seem to indicate that people with high affiliation needs do not experience job involvement in jobs where specific task goals are present. Another interesting result from Steers' study was that individuals with a high need for autonomy (n Aut) had significantly higher correlations between both feedback and goal difficulty and job satisfaction. It appears that when high n Aut people are given challenging goals with feedback and left alone they are happy.

Although the evidence is not conclusive, it appears that there are important individual difference moderating effects in both the goal setting and enrichment processes. Identification and effectively dealing with these differences may spell the difference between success or failure of motivational programs.

Interactions with Organizational Characteristics

Organizational level. In addition to the specific effects of goal setting on specific individuals and jobs, one can ask more general questions. It is important to know how the effects of goal setting or enrichment might differ in terms of some broader organizational characteristics such as the level of the organization, its structure, the prevailing climate, and its technology. The next few sections briefly discuss these topics. No studies were found that related goal setting to organizational levels. As mentioned earlier, most MBO programs have been focused at the managerial level while most studies of goal setting alone (without the more elaborate MBO techniques) have been conducted at the blue-collar level. Therefore, it is hard to draw any conclusions with respect to this issue.

On the other hand it seems probable that enrichment characteristics would change substantially from the lowest working level to top management and that the differences of existing job characteristics at various organizational levels would interact with the goal setting. The results of an unpublished study (Note 2) support the hypothesis that jobs become more enriched as the individual goes up the organizational ladder.

The study was conducted in 1974 in a medium-sized city government in the northwestern United States. Approximately 1600 city employees completed a 38 page job attitude questionnaire; 1144 usable questionnaires were obtained. Although many attitudes were assessed, the central concern here is the effects of job characteristics as

measured by the Job Diagnostic Survey (JDS) over differing occupational levels.

Table 1 displays the results of the JDS characteristics by occupational group and their mean Motivating Potential Scores (MPS). (MPS is a way of combining the JDS scores developed by Hackman and Oldham 1975. It is computed by adding skill variety, task identity, and task significance together and dividing by three; then multiplying the result with autonomy and with feedback from the job.) The steady upward trend of MPS scores is apparent. Top management jobs (administrators) had an average MPS of 225 while maintenance and service personnel (mostly blue-collar workers) had a MPS of 116. Based on this study there seems to be an effect of hierarchical level on perceived level of job enrichment.

Since job characteristics vary widely as one moves up and down the hierarchy, there would seem to be a differential effect of goal setting on job design. Goal setting at higher organizational levels, especially if participation was used, might make a good job even better without resorting to a combination goal-setting-enrichment program. On the other hand, jobs lower in the organization may be so unenriched that enrichment must be combined with goal setting to make the goals program effective.

Impact of Organizational Structure

Even less evidence exists for this dimension even though it appears that structure would be an important element in goal setting. If the organization structure is decentralized with cost centers at

TABLE 1

MEAN JOB CHARACTERISTIC SCORES BY OCCUPATIONAL LEVEL
IN A CITY GOVERNMENT¹

	Administrators	Technicians	Protective Services	Skilled Craft	Office & Clerical	Maintenance & Service
Skill Variety	6.4	5.5	5.8	5.0	4.5	4.0
Task Identity	5.7	5.4	4.4	5.1	4.7	5.6
Task Significance	6.7	6.1	6.4	5.8	6.0	5.9
Autonomy	6.2	5.3	4.9	4.8	4.6	4.5
Feedback From the Job	5.8	5.2	4.9	5.2	5.2	5.0
MPS ²	225.3	156.2	132.9	123.3	121.2	116.2

¹ N = 1144

² MPS = Motivating potential score (Hackman & Oldham, 1975)

the lowest levels of the organization, goal setting may be considerably facilitated. Conversely, centralized organizations may provide so little autonomy and such poor measures of performance at lower organizational levels that goal setting is impractical. Other structural variables such as size, span of control, and centralization of authority, are potential facilitators or inhibitors of goal setting programs, but little is known about these relationships.

Organizational climate. A study by Hollmann (1976) found that managers' perceptions of the supportiveness of the organizational climate and perceived effectiveness of the MBO process were significantly correlated. There was also a positive and significant correlation between climate and overall satisfaction with MBO as it related to their jobs. A central theme of most change literature, including MBO, is the importance of top management support to create unfreezing or willingness of the organization to adopt a new program such as MBO. An open supportive climate would seem to create the trust and collaboration necessary for effective goal accomplishment and the implementation of enrichment programs.

Technology. The degree of interdependence between tasks will remain a key moderator in the goal setting process. If tasks are highly independent and outputs easily measurable, goal setting will be facilitated. If tasks are interdependent, such as in process organizations or on assembly lines, the goal setting process will be inhibited because the output of individual employees is not measurable.

Some Tentative Hypotheses

A review of the literature provides evidence for several sets of hypotheses relating goal setting to job design. The overall relationship

of goal setting and job enrichment to satisfaction and performance must first be considered. We hypothesize that job enrichment will be more related to work satisfaction and that goal setting will be more related to productivity. The interactive effects of goal setting and job enrichment, which are largely untested, are predicted in the set of tentative hypotheses given below.

Job characteristics. The presence of specific, moderately difficult goals, if accepted, will result in:

- H1 : Improved task identity.
- H2 : Improved task significance.
- H3 : Improved feedback from the job.
- H4a: Improved autonomy, if participation in goal setting is used.
- H4b: Degraded autonomy, if goals are unilaterally imposed.
- H5 : Improved sense of job challenge.
- H6 : Enhanced role clarity.
- H7 : Better individual-organizational goal congruence.

Individual differences. The relationship between goals, individual differences, and job design is even less clear. Although considerable exploratory research needs to be done in this area, several hypotheses are already emerging:

- H8 : Performance of employees with high need for achievement (n Ach) will be higher when specific, moderately difficult goals exist, no matter how they are set.

H9 : Performance of employees with low n Ach will improve only if participative goal setting techniques are used.

H10: Employees with high need for affiliation (n Aff) will react less favorably to goal setting than employees with low n Aff.

H11: Employees with high need for autonomy (n Aut) will respond more favorably to goal setting than employees with low n Aut, provided that the means to accomplish the goal are under their control.

Organizational characteristics. Empirical support for the hypotheses relating goal setting and organizational characteristics is very scarce.

H12: At higher organizational levels more emphasis is needed on goal setting to improve performance than on job enrichment.

H13: Goal setting will be more successful in organizations with a decentralized organizational structure.

H14: Goal setting will be more successful in an organization with a supportive organizational climate.

H15: Goal setting will be more successful if the tasks of the organization are relatively independent and measurable.

In the next section, the first four hypotheses relating goal setting to job characteristics are tested in an experimental simulation. We will also explore the relationship between skill variety and goal setting.

The Interaction of Task Goals and Job Enrichment:
An Experimental Simulation

The purpose of the experiment was to investigate the effects of job enrichment and goal setting on satisfaction and productivity, both singly and in interaction with each other. Job enrichment was operationalized in terms of the theory of Hackman and Oldham (1976) while goal setting was based on the tenants of Locke (1968). The primary hypotheses was that job enrichment would have a major effect on work satisfaction and little effect on productivity while goal setting would have a major effect on productivity and no effect on satisfaction. In light of our previous discussion, we also expect goal setting to enhance both feedback from the job and task significance. Autonomy was expected to decline when goals were imposed. We wish only to highlight the results of this study; readers interested in more detail can find it in Umstot, et al (1976).

The Experimental Environment, Subjects, and Task

A controlled experiment was conducted in which the experimenter hired 42 temporary, part-time employees (who responded to advertisements in a local paper) for his off-campus company called Cascade Management Services (CMS). The employees performed a task for a local county government. They determined zoning codes from maps and used this information to code individual parcels of land with the appropriate zoning code. Each employee worked three or four afternoons for four hours each afternoon. Every opportunity to impart environmental realism was utilized. Application blanks and newspaper advertisements

carried the CMS name. Signs on the building and doors identified the premises as CMS. All employees were paid with specially printed checks bearing the CMS name. And, probably most important, the task was obviously authentic; the cards, listings, and maps were clearly products from a local county government's records.

The task was fairly complex. Each employee was given a set of maps and listings. The task of each person was to determine the proper zoning code for each land account by comparing two maps--one containing the detailed lot and parcel numbers, and the other containing the zoning boundaries and codes. Two decks of computer cards were used, one for zoning codes and the other for land accounts. Once the proper zoning code was determined, the appropriate preprinted computer zoning card was filed in front of the appropriate set of land account code cards. Each experimental group coded the same geographical area so that the productivity data would be comparable.

The Experimental Design

The experiment used two designs and consisted of two phases. Phase 1 lasted for two days and used a 2 X 2 fixed effects factorial design with job enrichment (enriched or not enriched) and task goals (goals specified or not specified) as the independent variables. Upon the completion of Phase 1, one workday was skipped and the employees reported back for their final workday and Phase 2 of the experiment. In Phase 2 the jobs were changed by adding either job enrichment or specific task goals to jobs that had not contained these job characteristics during Phase 1. A pretest-posttest control group design was used to measure the effects of the experimental changes.

The major dependent variables in both phases were productivity (number of codings per hour) and work satisfaction as measured by the work scale of the Job Descriptive Index, or JDI (Smith, Kendall, & Hulin, 1969). The Job Diagnostic Survey (Hackman & Oldham, 1975) was used to measure the effects of the experimental manipulations and to examine the interaction of the various job characteristics with the major experimental variables. A summary of the experimental manipulations is present in Table 2.

Results of Phase 1

The experimental manipulations worked as planned--the jobs were perceived as enriched and the goals were clearly perceived and moderately difficult to attain. To evaluate the effects of job enrichment and goal setting on satisfaction, a two-way analysis of variance was performed with the JDI Work Satisfaction Scale as the dependent variable. There were no significant main effects; however, there was a marginally significant interaction effect between goals and enrichment, $F(1,38)=3.67$, $p<.06$. Job satisfaction was low not only when the job lacked enrichment, but also when no goals were set.

The effects of goals on job characteristics. When each of the job characteristics was treated as a dependent variable in the analysis of variance, there was a significant main effect of goals on skill variety, $F(1,38)=4.03$, $p<.05$, and a significant interaction effect on task identity $F(1,38)=7.55$, $p<.01$, and autonomy $F(1,38)=17.73$, $p<.001$.

Table 2

Summary of the Manipulations Used to Induce the Independent Variables

Independent Variable	High Condition	Low Condition
<u>Job Enrichment:</u> <u>Skill Variety</u>	<ol style="list-style-type: none"> 1. Worked on one map until done. 2. Obtained own supplies 3. Selected different communities (e.g., rural or city) 	<ol style="list-style-type: none"> 1. Worked sequentially; plats first, then acreage 2. E provided all supplies 3. Area assigned by E*
<u>Task Identity</u>	<ol style="list-style-type: none"> 1. Selected a community of their "own" 2. Wrote names on wall chart indicating "ownership" 	<ol style="list-style-type: none"> 1. No community; areas randomly assigned by E 2. No wall chart
<u>Task Significance</u>	<ol style="list-style-type: none"> 1. Importance and uses of task outcomes stressed 2. Complete description of zoning codes on cards 	<ol style="list-style-type: none"> 1. No information on importance given 2. No description on cards; only the number
<u>Autonomy</u>	<ol style="list-style-type: none"> 1. Freedom to determine methods, breaks 2. Unlimited mobility 3. Obtained own supplies 	<ol style="list-style-type: none"> 1. Methods predetermined; breaks rigidly controlled 2. Restricted mobility 3. E obtained supplies
<u>Feedback from the Job</u>	<ol style="list-style-type: none"> 1. Completed areas on maps crossed off 2. Full day's production remained visible 3. Completed boxes of cards stacked in same room 	<ol style="list-style-type: none"> 1. No maps for gauging progress 2. Production removed hourly 3. Completed cards merged with uncompleted in another room
<u>Task Goals:</u>	<ol style="list-style-type: none"> 1. Specific goals of 15 codings per hour over previous average 2. Chart posted for each individual in his cubicle 3. Wall clock to gauge progress 4. File box for codings had a production measurement scale 	<ol style="list-style-type: none"> 1. No goals specified 2. No goals chart 3. No wall clock 4. File box did not have a scale

*E means experimenter

Figure 1 summarizes the effects of the various experimental conditions on the job characteristics. When compared to an enriched job without goals, a job with goals contains more perceived task identity and feedback from the job and less perceived autonomy. An important and unanticipated finding is that the goals treatment alone resulted in feelings of enrichment that were quite similar to the enriched treatment.

Results of Phase 2

In Phase 2 jobs were changed by adding goals to jobs where no goals had existed or adding enrichment to jobs that had been unenriched. Again, the experimental manipulations worked as planned. In contrast to Phase 1, the one-way analysis of variance of satisfaction change scores between the enriched groups and the control group showed that enrichment resulted in significantly higher work satisfaction, $F(2,21)=3.90$, $p<.05$. Thus, these results show a substantial impact of job enrichment on work satisfaction when the job is changed to make it more enriched. In contrast, goal setting had no effect on satisfaction. The effects of job changes on productivity show that while enrichment has no effect on productivity, goal setting does have a significant positive impact on productivity, $F(1,14)=4.94$, $p<.05$.

Figures 2 and 3 show that adding goals had little impact on job characteristics in Phase 2--none of the changes was significant.

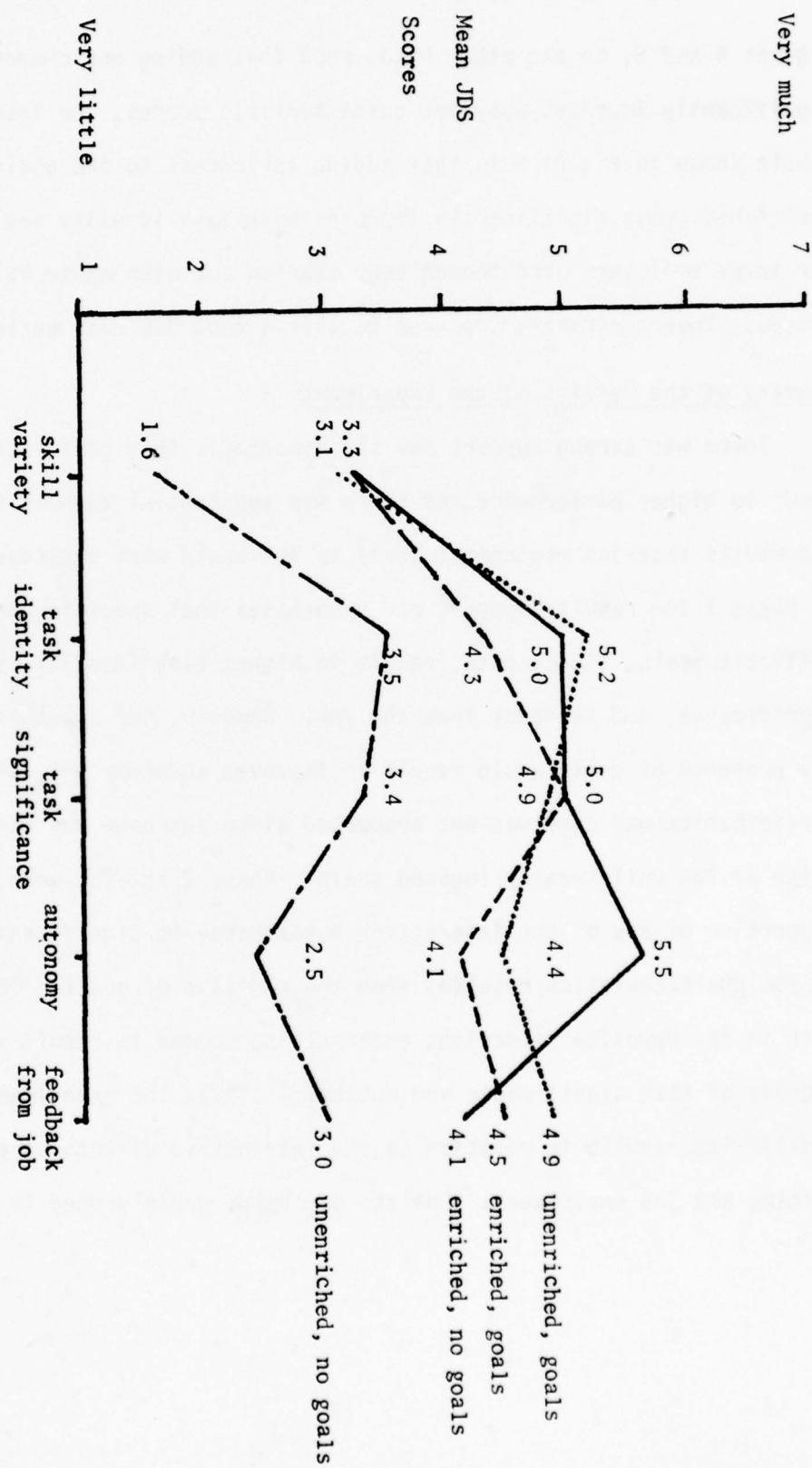


Figure 1 Mean job characteristic scores for each experimental group in Phase 1

Figures 4 and 5, on the other hand, show that adding enrichment significantly improved many job characteristic scores. An interesting result shown in Figure 5 is that adding enrichment to the goals-unenriched group significantly improved both task identity and autonomy for these employees even though they started out with quite high scores. Thus enrichment appeared to make a good job even better.

Summary of the Results of the Experiment

There was strong support for the hypothesis that goal setting leads to higher performance and there was substantial support for the hypothesis that job enrichment leads to increased work satisfaction. In Phase 1 the results support our hypotheses that specific, moderately difficult goals, if accepted, result in higher task identity, task significance, and feedback from the job. However, our hypothesis that the presence of goals would result in improved autonomy only if participation was used was not supported since autonomy was higher in spite of the unilaterally imposed goals. Phase 2 results were not supportive of any of our interaction hypotheses--no significant changes in job characteristics resulted from the addition of goals. The trends were in the opposite direction; goal setting seemed to result in lower degrees of task significance and autonomy. Thus, the experiment produced conflicting results in relation to the interactive effects of goal setting and job enrichment. On the one hand, goals seemed to take on

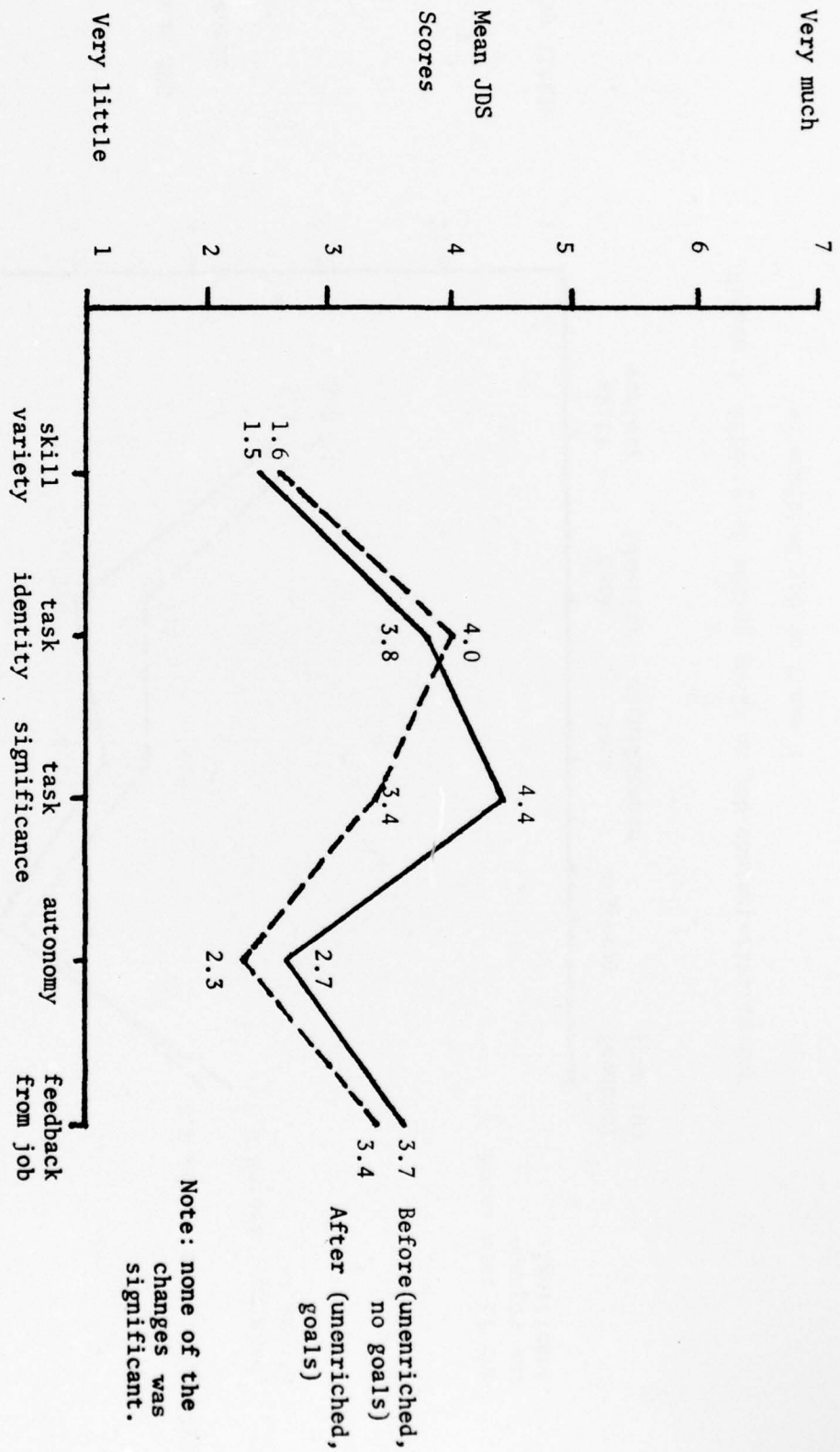


Figure 2 Effects of adding goals on job characteristics for an unenriched job in Phase 2

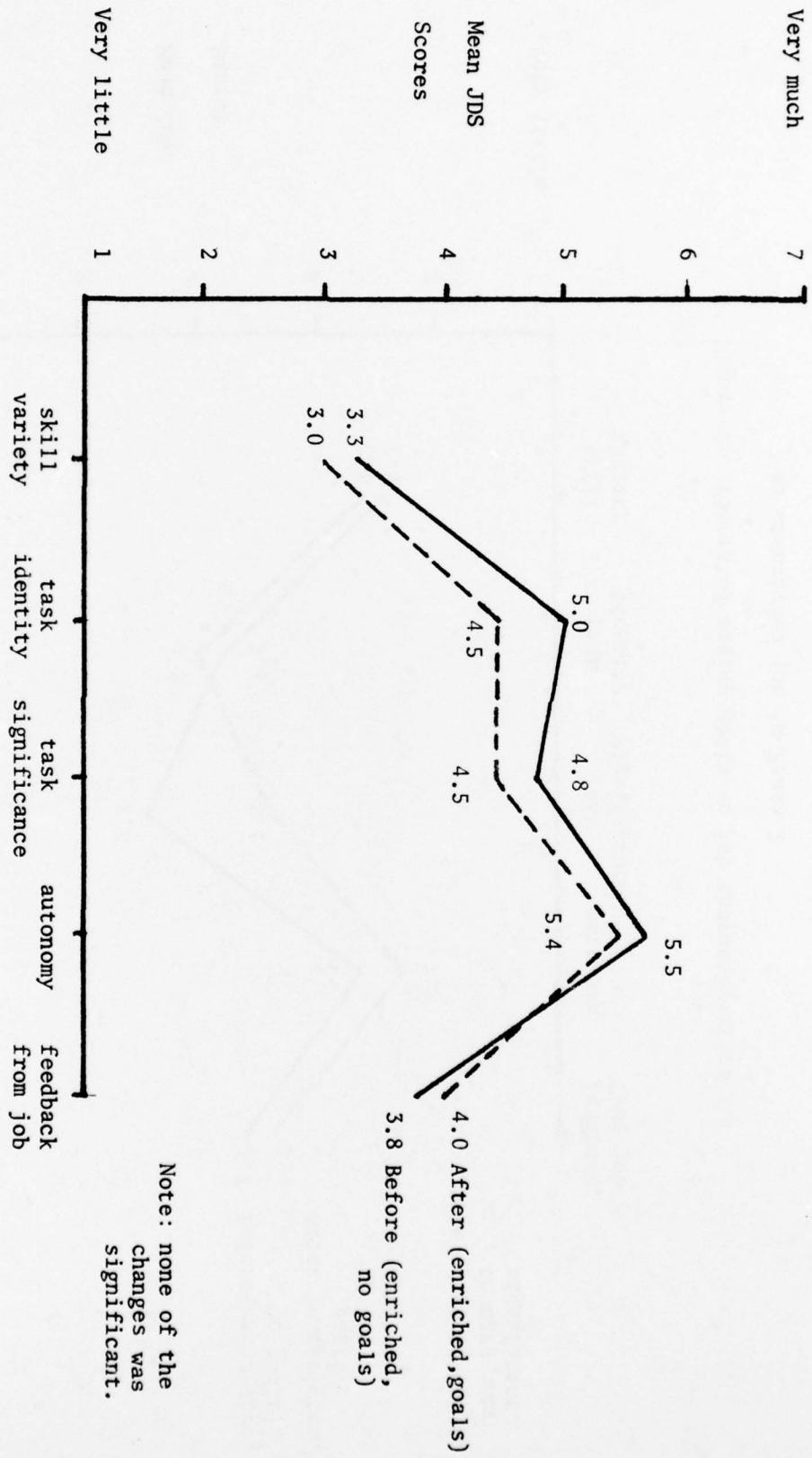


Figure 3 Effects of adding goals on job characteristics for an enriched job in Phase 2

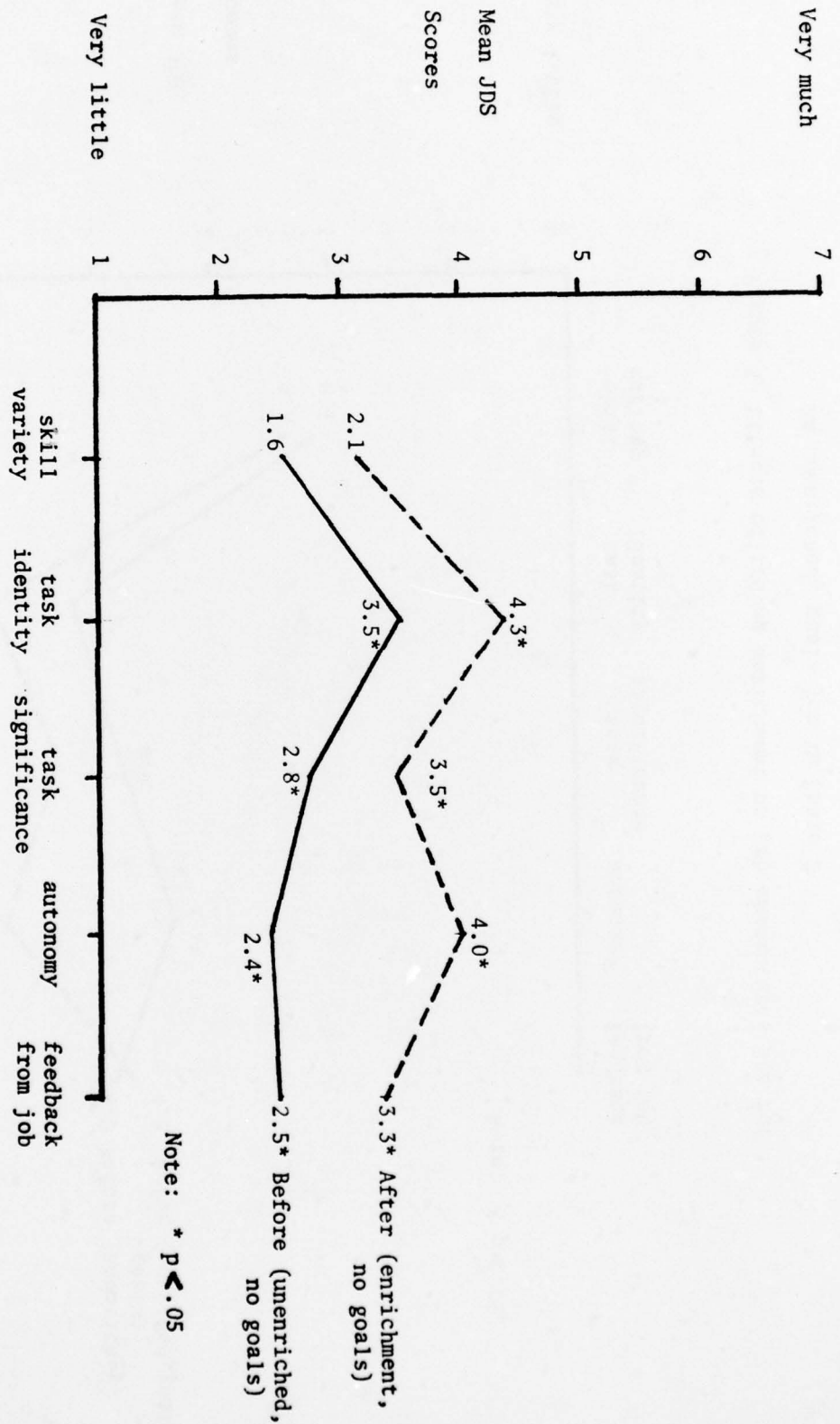


Figure 4 Effects of adding enrichment on job characteristics for an unenriched, no goals job in Phase 2

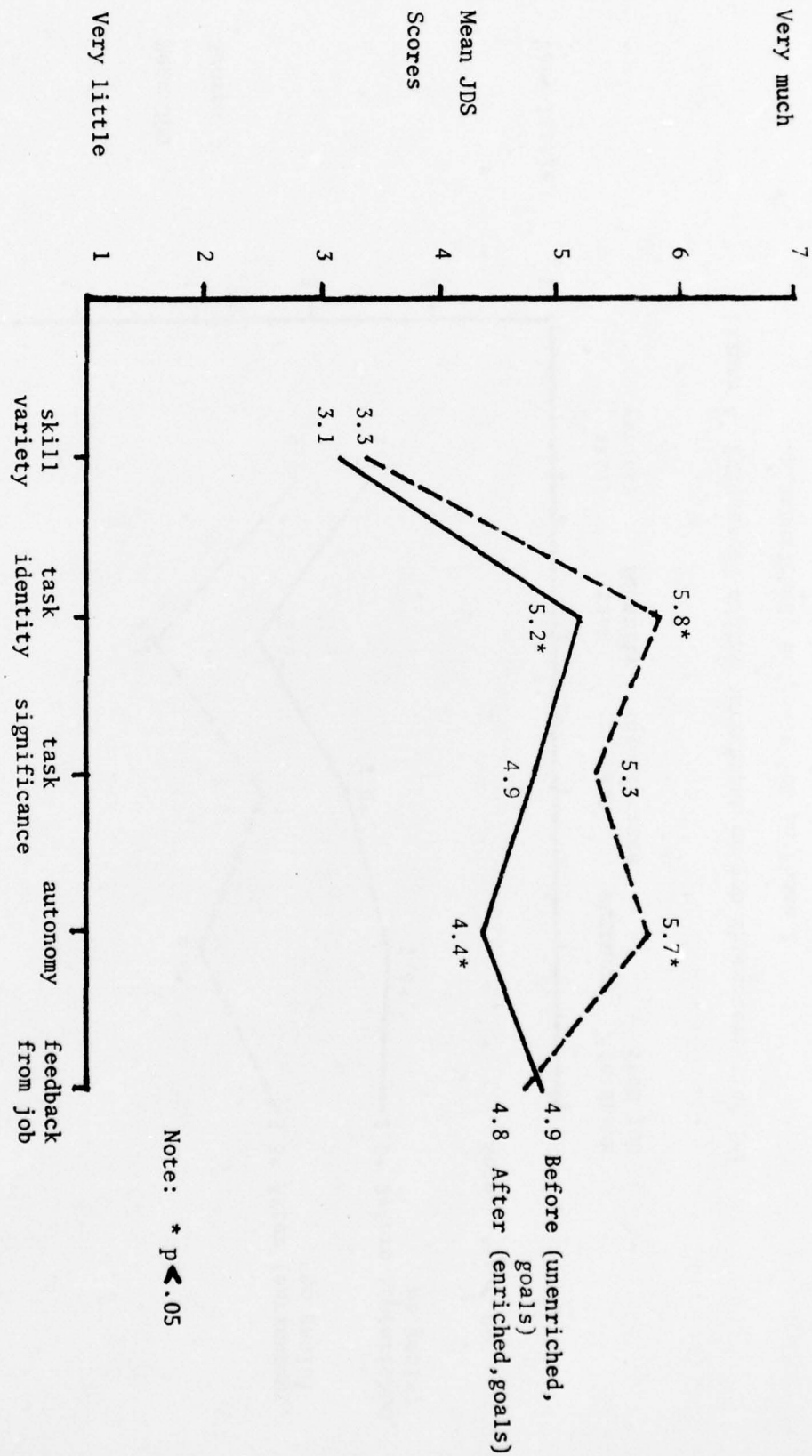


Figure 5 Effects of adding enrichment on job characteristics for an unenriched, goals job in Phase 2

many of the characteristics of an enriched job as we had earlier hypothesized. On the other hand, goals seemed to cause little, or even negative changes, in job characteristics when goals were added to an existing job.

One result that is very important and is consistent in both experimental phases is that goal setting did not cause any major adverse interactive effects when used in conjunction with job enrichment. Based on these experimental results, there is no reason to believe that goal setting and job enrichment are incompatible. In fact, the opposite appears to be true; they may complement one another in such a way that employees are both more satisfied and more productive.

Conclusions and Implications

The evidence is quite convincing that task goals affect productivity. However, when task goals are integrated into an MBO program, the empirical support for goal setting is considerably weaker. Apparently it is easier to conduct research and obtain consistently positive results when a simpler task is involved. Thus, the generalizability of goal setting research into more complex task environments seems questionable.

One explanation for the lack of success of many goal setting programs might be that goal setting variables by themselves are an incomplete statement of task motivation. It seems quite plausible that most of the job enrichment variables (skill variety, task identity, task significance, autonomy, and feedback from the job) also seem to be

essential for an effective motivational effort. For example, without feedback goal attainment would not be reinforced and motivation would decline. Without autonomy the employee may feel that the means to reach the goal are incompatible and will not work toward goal attainment. Without significance the goals would have little meaning and one could not expect sustained support for the program. A somewhat weaker case might also be made for the essentiality of skill variety and task identity to the goal setting process. In short, it appears that goal setting and job enrichment, if combined, would make a more complete statement of work motivation than either does alone. Figure 6 shows an integrated model of job design that illustrates the relationships of the variables discussed in this chapter.

A major practical reason for building an integrated model of work design is the outcomes or results that might be expected from each technique. Goal setting has been consistently related to higher performance while job enrichment has been more consistently related to work satisfaction than to performance. If the two are combined, increases in both performance and satisfaction are the predicted result.

Although our understanding of the enrichment and goal setting moderator variables is incomplete, it appears that both variables are influenced by individual differences, especially, growth need strength or need for achievement and by certain organizational variables such as climate, structure and technology. A convergent trend seems to

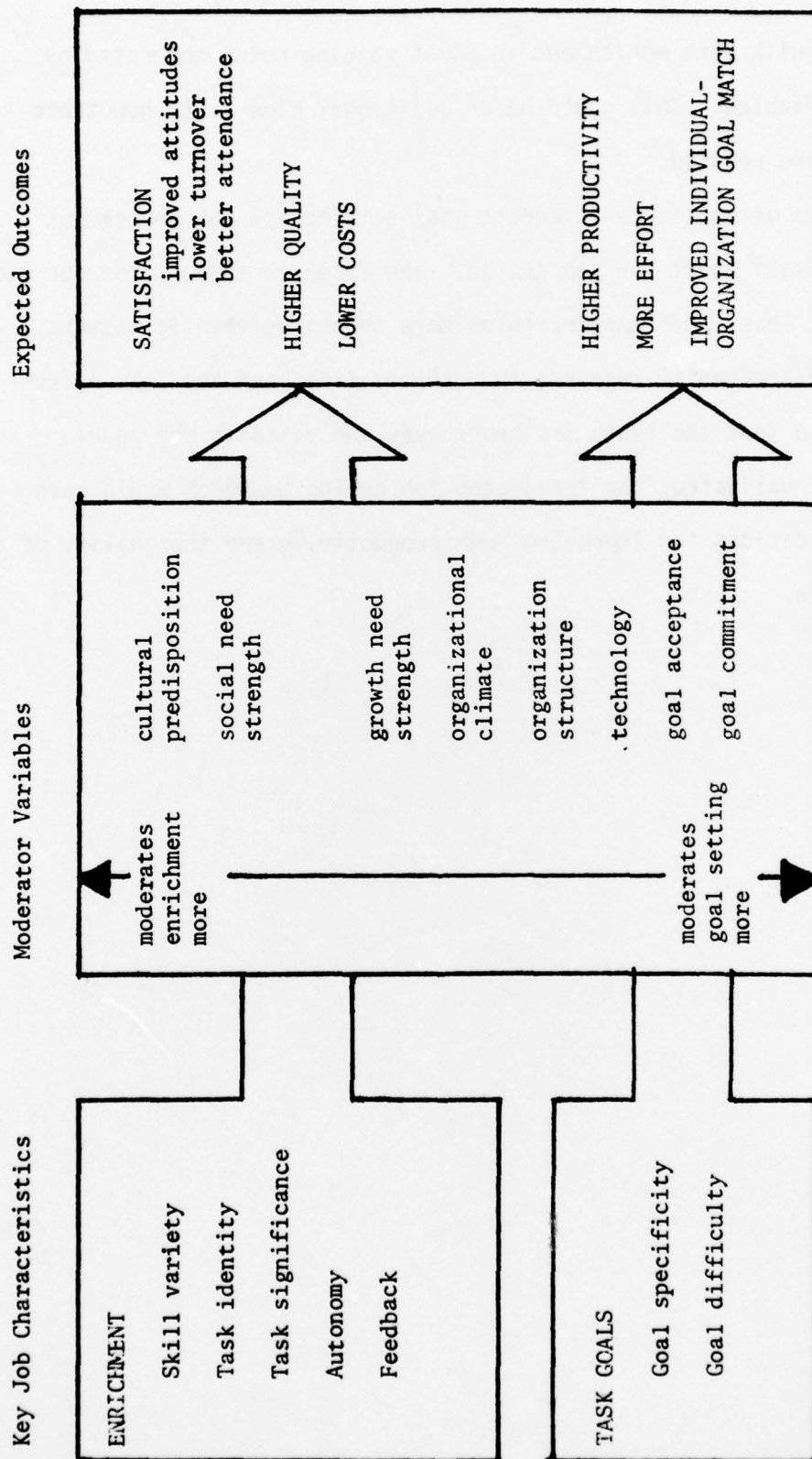


Figure 6 An integrated model of job design

be forming with both enrichment and goal setting being moderated by similar variables. This could be an additional clue as to how these variables are related.

We have attempted to integrate goal setting and job enrichment into an overall model for job design. The research support for our model is spotty. Thus, this chapter poses more questions than it answers. Continued experimental research in both the field and the laboratory is needed to test the tentative hypotheses and validate the model. However, if validated, the integrated job design approach would have major implications for improving both productivity and the quality of working life.

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Footnote

¹The authors would like to thank Dale McKemey and Richard Steers for their helpful comments on an earlier draft of this paper.